

June 9, 2000  
Ref. No.: EOS/ETS-0202-C01

National Aeronautics and  
Space Administration  
Goddard Space Flight Center  
Greenbelt, Maryland 20771

Attention: Mr. Willie Fuller  
Code 581  
Building 32, Room N212D

Subject: Contract No.: NAS9-98100  
CSOC ETS Completion Form Task  
EOSDIS Test System (ETS) Simulated CCSDS Telemetry Generator  
(SCTGEN) -- Delivery of the Patch Release 2.3 Software

Dear Mr. Fuller:

The CSOC contractor is pleased to deliver Patch Release 2.3 of the Simulated CCSDS Telemetry Generator (SCTGEN) of the ETS. Release 2.3 of SCTGEN provides solutions to four Discrepancy Reports (DRs), all in support of the PM-1 mission.

The delivery package contains 5 attachments as listed below, describing the delivery contents, build instructions, resolved DRs, and release history. A completed Mission Systems Configuration Management (MSCM) form is included.

If you have any questions concerning this delivery, please call me at (301) 805-3609.

Sincerely yours,

Chii-Der Luo  
Tools and Special Facilities Manager

Delivery Package Reviewed by:

Joe Polesel  
Simulation Group Sustaining Engineer Manager

EOSDIS Test System (ETS) Simulated CCSDS Telemetry Generator  
Delivery of the Release 2.3 Software  
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The following attachments contain the details of the SCTGEN software.

- Attachment A - contains the instructions to build and install the software
- Attachment B - contains a list of the resolved DRs
- Attachment C - contains the release history summary matrix
- Attachment D - contains a file name listing of the delivery contents
- Attachment E - contains the Mission Systems Configuration Management (MSCM) form

Distribution: (\* - Letter Only)

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## **Attachment A — Release 2.3 Build Instructions**

SCTGEN consists of two elements: (1) the SCTGEN Graphical User Interface, referred to as SCTGUI; and (2) the SCTGEN application software, referred to as SCTGEN. Instructions for building the complete system, SCTGEN Release 2.3, step by step, are contained in the following sections.

### **A.1 Introduction**

The patch release SCTGEN Release 2.3 consists of 10 source files, which are being delivered on tape media. The files "globals.tcl", "procedu.tcl", and "procRBP.tcl" will replace the files of the same name in the \$HOME/sctgui2.0/source/tcl directory. The file "caduStream2.cpp" will replace the file of the same name in the \$HOME/sctgen2.0/CCSDS directory. The file "DS\_2Output.cpp" will replace the file of the same name in the \$HOME/sctgen2.0/ETS directory. The file "bsctgen.cmd" will replace the file of the same name in the \$HOME/sctgen2.0/tcore directory. The files "cuctime\_to\_cdstime.c", "cuctime\_to\_cdstime.h", "cuctime\_to\_sctime.c" and "cuctime\_to\_sctime.h" are new additions to the \$HOME/sctgen2.0/ETS directory. Note that SCTGEN Patch Release 2.3 can only be overlaid over SCTGEN Release 2.2. See section A.4 below for instructions on how to use new SCTGEN features.

### **A.2 Build SCTGEN**

- 1) Change to the \$HOME/sctgen2.0/work directory.
- 2) For the SGI platform, type "source sgi\_btiger.cmd", for all other platforms type "source btiger.cmd", to build the first portion of SCTGEN. This will take about 10 to 15 minutes and will generate warning messages.
- 3) For the SGI platform, type "source sgi\_bsctgen.cmd", for all other platforms type "source bsctgen.cmd", to build the second portion of SCTGEN. This will also generate warning messages.
- 4) Change to the \$HOME/sctgen2.0/work directory and type "cp sctgen ~/sctgui2.0/bin/*platform*.sctgen2.0" to rename the SCTGEN executable, where *platform* is sgi, hp, or sun.
- 5) Change to the \$HOME/sctgui2.0/bin directory.
- 6) Type "rm sctgen" to remove the current executable.
- 7) Type "ln -s *./platform*.sctgen2.0 sctgen" to create a link to the executable, where *platform* is sgi, hp, or sun.

\*For the HP platform:

For steps 2 and 3, do not type the sgi prefix.

For steps 4 and 7, replace "hp" for "sgi", or something comparable to denote host platform.

\*For the SUN platform:

For steps 2 and 3, do not type the sgi prefix.

For steps 4 and 7, replace "sun" for "sgi", or something comparable to denote host platform.

Note: The file names may not be exactly the same depending on the platform. For example, different UNIX systems might have different header file extensions. Make sure that the correct files are replaced, otherwise, the changes will not take effect.

### **A.3 Supported platforms**

Previous versions of SCTGEN have been built and tested using the environments listed below.

SUN platform:

- SunOS Generic Version 4.3 including C++ compiler for SUN UNIX.

HP platform:

- HP OS Version 9.0 including C++ compiler for HP UNIX.

SGI platform:

- IRIX Version 6.2 including standard CFRONT compatible C++ compiler.

## **Attachment B — Resolved Discrepancy Reports**

This attachment reflects the DRs that were addressed with SCTGEN Release 2.3. The DRs are listed in the table below by DR number, status, severity, subsystem name, short description, and related NCR number. A full description of each DR follows the summary table. Complete information on all DRs is maintained in the ESDIS Discrepancy Report Tracking Tool (DRTT), which can be accessed via the Internet at address <http://iree.gsfc.nasa.gov/ddts/> (directly) or from the ESDIS Activities, Progress Reports and Schedules page at <http://spsosun.gsfc.nasa.gov/ESDIShome.html>.

### **Summary of Closed Discrepancy Reports**

| <b>Critical(1)</b> | <b>Urgent(2)</b> | <b>Routine(3)</b> |
|--------------------|------------------|-------------------|
| <b>0</b>           | <b>2</b>         | <b>2</b>          |

#### **Status Definitions**

N - New

D - Delivered

W - Withdrawn

A - Assigned Analysis

V - Verified

P - Postponed

R - Assigned Resolution

C - Closed

X - Duplicate

| <b>DR/IDR #</b> | <b>Status</b> | <b>Severity</b> | <b>Subsystem</b> | <b>Description</b>                                  | <b>Related NCR</b> |
|-----------------|---------------|-----------------|------------------|---|--------------------|
| ETS0315         | A             | 3               | SCTGEN           | Incorrect value in Fill CADU MPDU Header            |                    |
| ETS0384         | A             | 2               | SCTGEN           | Construction Record Time Format Change              |                    |
| ETS0386         | A             | 2               | SCTGEN           | The SCID for Packet Products Needs to be set to 154 |                    |
| ETS0396         | A             | 3               | SCTGEN           | PDS/EDS Construction Record time change for AMSR-E  |                    |

\*Total number DRs addressed=4

### **ETS0315**

Fill CADUs should have the value x07FF in the MPDU header. Currently, the system generates fill CADUs with x00. This occurs when there is a file of all fill CADUs. SCTGEN works correctly if the file is not all fill CADUs.

### **ETS0384**

The EDOS-EGS ICD States that the first/last packet times in the Construction Record will be in TcDay format. For packets with TcCUC time format SCTGEN places the first/last packet times in TcCUC format in the Construction Record. SCTGEN will need to be modified to convert the TcCUC first/last packet times into TcDay format prior to writing the time in the Construction Record.

### **ETS0386**

The Input Window for Packet Products (EDU and RBP) should be updated to have 154 as the default SCID for PM.

### **ETS0396**

Currently, SCTGEN does not convert the AMSR-E time format to Day Segmented time format in the PDS/EDS Construction Record. SCTGEN will need to be updated to express the AMSR-E time in Day segmented time format in the Construction Record.

This change is needed to make SCTGEN compliant with the EDOS/EGS ICD.

**Attachment C — Release History Summary Matrix**

The attached Release History Summary Matrix reflects the SCTGEN Release 2.3 Delivery.

| Release History Summary Matrix |        |     |        |         |         |         |             |             |          |        |
|--------------------------------|--------|-----|--------|---------|---------|---------|-------------|-------------|----------|--------|
| SYSTEM:                        | SCTGEN |     |        |         |         |         |             | PAGE        | 1 OF 2   |        |
| RELEASE NUMBER                 |        |     | 1.0    | 1.1.0   | 1.2.0   | 1.3.0   | 1.4.0       | 1.5.0 (2.0) | 2.1      | 2.2    |
| DELIVERY DATE                  |        |     | 3/3/97 | 5/27/97 | 8/25/97 | 2/27/98 | 6/26/98     | 9/10/99     | 11/30/99 | 2/2/00 |
| CONFIGURATION ITEM             | CI NO. |     |        |         |         |         |             |             |          |        |
| SCTGEN GUI                     | 5.1    | 1.0 | 1.1.0  | 1.2.0   | 1.3.0   | 1.4.0   | 1.5.0 (2.0) | 2.1         | 2.2      |        |
| SCTGEN Application Software    | 5.2    | 1.0 | 1.1.0  | 1.2.0   | 1.3.0   | 1.4.0   | 1.5.0 (2.0) | 2.1         | 2.2      |        |
|                                |        |     |        |         |         |         |             |             |          |        |
|                                |        |     |        |         |         |         |             |             |          |        |
|                                |        |     |        |         |         |         |             |             |          |        |
|                                |        |     |        |         |         |         |             |             |          |        |
|                                |        |     |        |         |         |         |             |             |          |        |
|                                |        |     |        |         |         |         |             |             |          |        |
|                                |        |     |        |         |         |         |             |             |          |        |



| Release History Summary Matrix |        |        |  |  |  |  |  |      |        |
|--------------------------------|--------|--------|--|--|--|--|--|------|--------|
| SYSTEM:                        | SCTGEN |        |  |  |  |  |  | PAGE | 2 OF 2 |
| RELEASE NUMBER                 |        | 2.3    |  |  |  |  |  |      |        |
| DELIVERY DATE                  |        | 6/9/00 |  |  |  |  |  |      |        |
| CONFIGURATION ITEM             | CI NO. |        |  |  |  |  |  |      |        |
| SCTGEN GUI                     | 5.1    | 2.3    |  |  |  |  |  |      |        |
| SCTGEN Application Software    | 5.2    | 2.3    |  |  |  |  |  |      |        |
|                                |        |        |  |  |  |  |  |      |        |
|                                |        |        |  |  |  |  |  |      |        |
|                                |        |        |  |  |  |  |  |      |        |
|                                |        |        |  |  |  |  |  |      |        |
|                                |        |        |  |  |  |  |  |      |        |
|                                |        |        |  |  |  |  |  |      |        |
|                                |        |        |  |  |  |  |  |      |        |

## **Attachment D- Listing of Delivery Contents**

Delivery is on one 4 mm magnetic tape. The contents of the tar tape are listed below. Sections D.1 and D.2 contain the file name listings for the SCTGEN GUI and SCTGEN application software, respectively.

### **D.1 SCTGEN GUI Patch Release 2.3**

globals.tcl  
procEDU.tcl  
procRBP.tcl

### **D.2 SCTGEN Patch Release 2.3**

bsctgen.cmd  
DS\_2Output.cpp  
CaduStream2.cpp  
Cuctime\_to\_cdstime.c  
Cuctime\_to\_sctime.c  
Cuctime\_to\_cdstime.h  
Cuctime\_to\_sctime.h

**Attachment E — Mission Systems Configuration Management Form**

This attachment contains the completed Mission Systems Configuration Management (MSCM) form.

### Mission Systems Configuration Management Form

|   |                                |   |   |
|---|--------------------------------|---|---|
| <u>1. ORIGINATOR</u><br>Donald Holmes   | <u>2. ORGANIZATION</u><br>CSOC | <u>3. PHONE</u><br>(301) 805-3547   | <u>4. E-MAIL ADDRESS</u><br>Donald.Holmes@csconline.com |
| <u>5. ELEMENT</u><br>Other =====> SCTGEN  |                                | <u>6. INSTALLATION PRIORITY</u><br>Routine  | <u>7. TRACKING NUMBER</u><br>(Assigned by CM Office)    |
| <u>8. SOURCE CHANGE REQUEST(S):</u><br><br>ETS DRB approved SCTGEN release for SMO DR closure.  |                                | <u>9. APPROVALS</u><br><br><div style="display: flex; justify-content: space-between;"> <div>Element Manager</div> <div>_____</div> <div>____/____/____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Flight Ops Director</div> <div>_____</div> <div>____/____/____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>Operations Manager</div> <div>_____</div> <div>____/____/____</div> </div> |   |
| <u>10. DELIVERED SYSTEM</u> (Check all that apply)  |                                |   |   |
|   | Name                           | Version   | Media Identification                                    |
| <input type="checkbox"/> Hardware   | _____                          | _____   | _____   |
| <input checked="" type="checkbox"/> Software  | SCTGEN                         | R2.3  | 4 mm tape   |
| <input type="checkbox"/> Database   | _____                          | _____   | _____   |
| <input checked="" type="checkbox"/> Documentation:  |                                |   |   |
| Delivery Package  | n/a                            | Via email   | 6/9/00  |
| _____   | _____                          | _____   | _____   |
| _____   | _____                          | _____   | _____   |
| <input type="checkbox"/> Other  | _____                          | _____   | _____   |
| <u>11. CHANGE DESCRIPTION</u><br><br>SCTGEN 2.3 addresses four DRs. None are workarounds.<br>_____<br>_____<br>_____  |                                |   |   |
| <u>12. ATTACHMENT(S):</u> Check if YES <input checked="" type="checkbox"/><br><br>Description: SCTGEN 2.3 delivery package (cover letter with attachments) dated 6/9/00. _____<br>_____ |                                |   |   |
| <u>13. CM OFFICE USE</u>  |                                |   |   |
|   | Location (Bldg/Room)           | Slot location(s)  |   |
| Hardware  | _____/____                     | _____   |   |
| Media   | _____/____                     | _____   |   |
| Documentation   | _____/____                     | _____   |   |
| Installation date   | _____/____/____                | CM Office Signature _____   |   |

Form MSCM (970327)